



STATE OF WASHINGTON

DEPARTMENT OF HEALTH

OFFICE OF ENVIRONMENTAL PUBLIC HEALTH SCIENCES

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August 27, 2019

Mr. Sean J. Gamble
1109 1st Avenue, Suite 501
Seattle, WA 98101

Dear Mr. Gamble:

Thank you for your July 31, 2019 letter and the additional sample documentation provided. As the state's public health agency, our mission is to protect and improve the health of all people in Washington State. Unfortunately, the information you provided is insufficient to determine children and staff exposure at the Sky Valley Education Center (SVEC) to PCDDs or PCDFs.

We reviewed the information provided in the Data Package report for samples 183376 – 183397 and are unable to draw any health related conclusions from these results due to lack of information such as how the samples were collected and preserved to prevent contamination from other sources. This was also true for field samples 184816-184823 (carpet samples collected by the teacher in December 2015).

We reviewed the new laboratory data from analysis of air filter samples collected by EH&E in January 2019 and are unable to estimate student or staff inhalation exposure. While the dust from air filters was reportedly collected by sterile tweezers from the surface of the filters, neither the total mass of dust on the filter nor the surface area of the filter were reported. Because of this and other missing information, the sample can't be used to estimate inhalation exposure in the classroom.

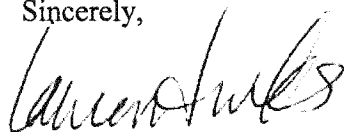
We investigated the consultant claim that PCDD/PCDF in dust on classroom air filters "could only have come from some as yet unidentified reservoir(s) of those materials still present in the school." According to the school, the classroom unit ventilators at SVEC are designed to pull 450 cubic feet per minute (CFM) of outside air into the classroom. This outside air flows through the filters before entering the classroom and is a likely source of dioxins and furans measured on the filters. The filters would actually reduce the amount dioxins and furans in indoor air by trapping the associated ambient air particulate matter (PM). Additionally, the congener profiles in filter samples from the air handling system look similar to those associated with vehicle emission sources (unleaded gasoline cars and diesel trucks) reported in Cleverly et al. 19971.

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Regarding background levels of dioxins and furans in air filters, it is quite reasonable that such filters could contain significantly higher concentrations than background levels in soils tested in Seattle neighborhoods. While the soil concentrations result from passive deposition and weathering of ambient air PM, the concentration in an air filter results from the mechanical movement of large volumes of air over a period of time through the filter. Over a six month period, a classroom unit ventilator designed to pull 450 CFM of outside air into a classroom would filter about 35 million cubic feet of air. Much higher deposition is expected under this scenario.

It is unclear whether or not levels of dioxins and furans in dust samples from SVEC reflect background levels based on the data available. To address concerns, we provided several public health recommendations to reduce dioxin levels in the school air handling system and possible exposure to students and staff (attached). Additionally, we share your concern about failing PCB ballasts in old fluorescent light fixtures in schools in Washington State and recommend their removal when found, consistent with the statewide Chemical Action Plan for PCBs completed in 2015². We hope this information is helpful to you.

Sincerely,



Lauren Jenks, MPH, CHES
Office Director

footnotes

1Cleverly, D.; Schaum, J.; Schweer, G.; Becker, J.; Winters, D. 1997. The congener profiles of anthropogenic sources of chlorinated dibenzo-p-dioxins and chlorinated dibenzofurans in the United States. *Organohalogen Compounds*, Volume 32:430-435.

2 <https://fortress.wa.gov/ecy/publications/documents/1507002.pdf>